

**Note:** For the time being, only cameras with IMX219 sensors are supported:



This tutorial is also compatible with **Jetson NANO**, **Jetson Xavier NX**, **Jetson TX2 NX SUB**, **Jetson ORIN NX**.

## 1.About wiring

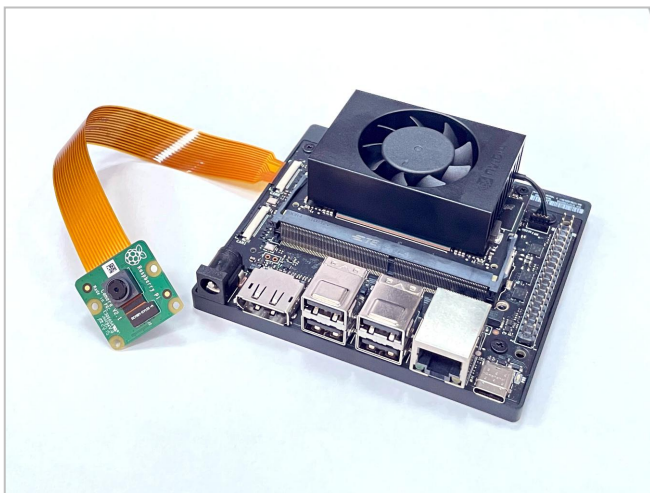
Jetson nano, Jetson Xavier NX, and Jetson TX2 NX sub use 15pin-1mm pitch cables.

Jetson ORIN XN uses 15pin to 22pin-0.5mm pitch cable.

Jetson nano, Jetson Xavier NX, Jetson TX2 NX SUB camera connection, as shown below.



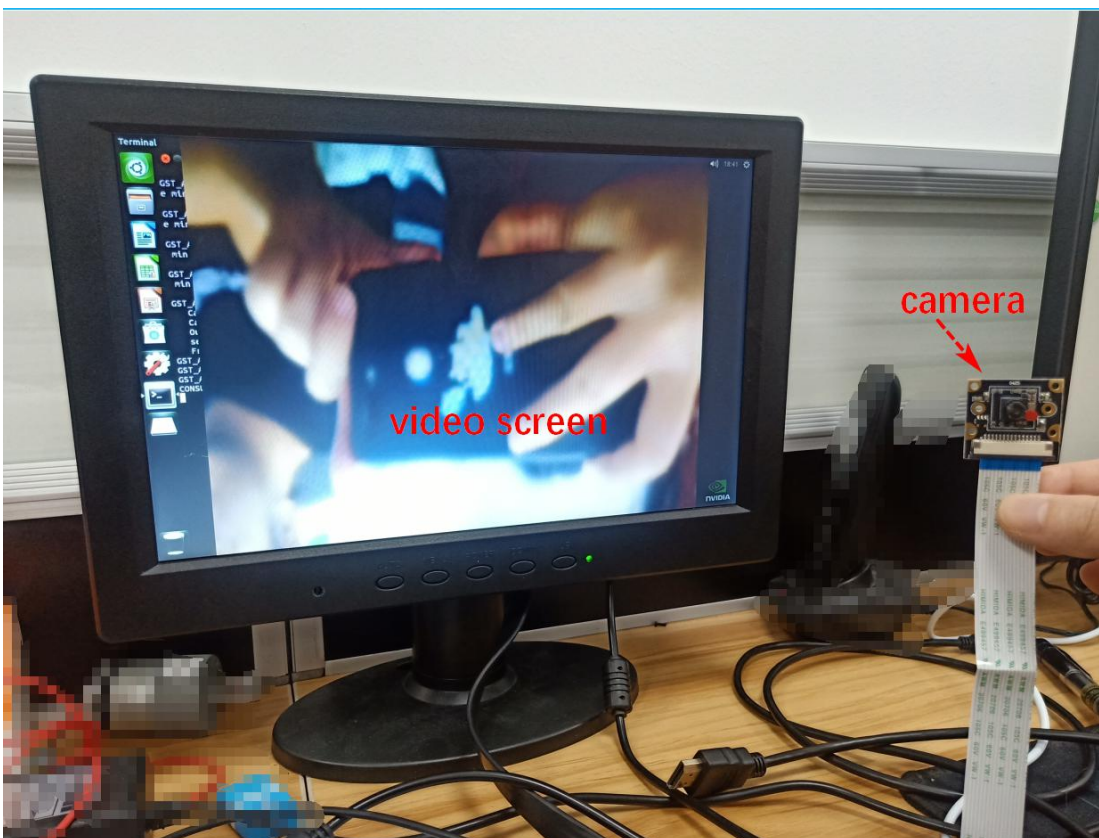
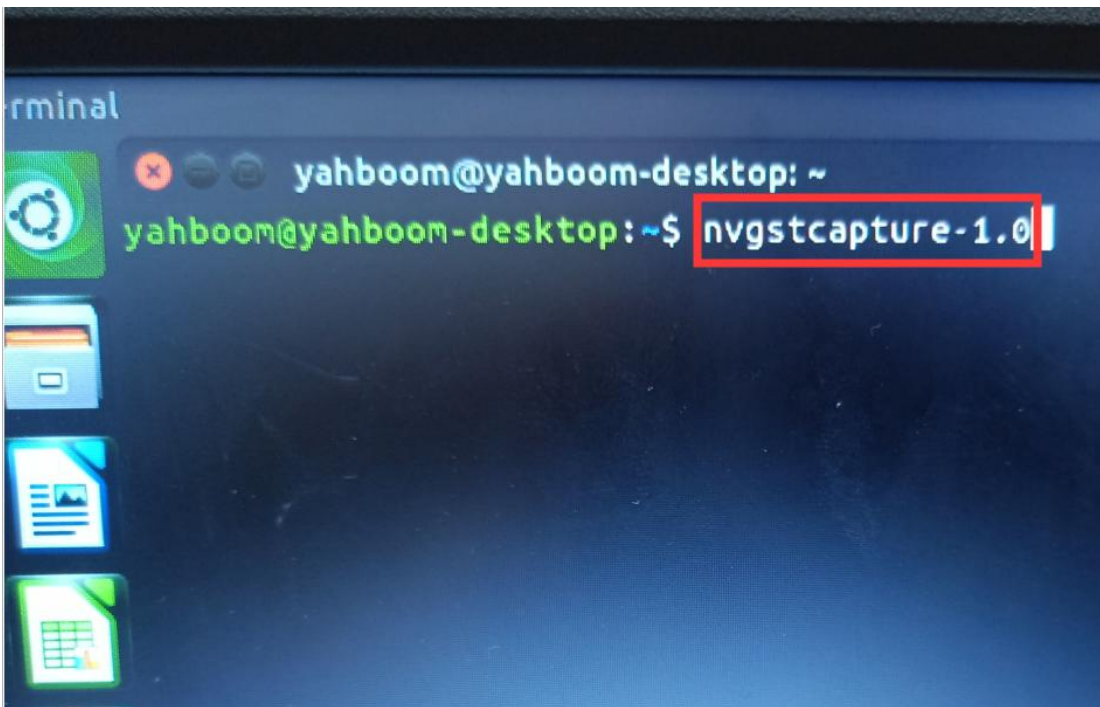
Jetson ORIN XN camera connection, as shown below.



## 2.How to test the camera

2.1 We need to open the terminal of Jetson Nano and input command: **nvgstcapture-1.0**

Then, press "Enter" on your keyboard. You can see video screen. As shown below.



2.2 We can use several commands in the manual.

1) **--prev\_res**

This command is used to preview the resolution, height and width of the video, CSI camera with a range of 2 to 12 (5632x4224)

e.g: `nvgstcapture-1.0 --prev-res=3`

As shown below:

```
yahboom@yahboom-desktop: ~  
yahboom@yahboom-desktop:~$ nvgstcapture-1.0 --prev-res=3  
Encoder null, cannot set bitrate!  
Encoder Profile = High  
Supported resolutions in case of ARGUS Camera  
(2) : 640x480  
(3) : 1280x720  
(4) : 1920x1080  
(5) : 2160x1560  
(6) : 2592x1944  
(7) : 2616x1472  
(8) : 3840x2160  
(9) : 3896x2192  
(10): 4208x3120  
(11): 5632x3168  
(12): 5632x4224  
Runtime ARGUS Camera Commands:  
Help : 'h'  
Quit : 'q'  
Set Capture Mode:  
  m: <val>  
    (1): image  
    (2): video  
Get Capture Mode:  
  gmo  
Set sensor orientation:  
  so: <val>  
    (0): none  
    (1): Rotate counter-clockwise 90 degrees  
    (2): Rotate 180 degrees  
    (3): Rotate clockwise 90 degrees  
Get sensor orientation:
```



## 2) **--cus-prev-res**

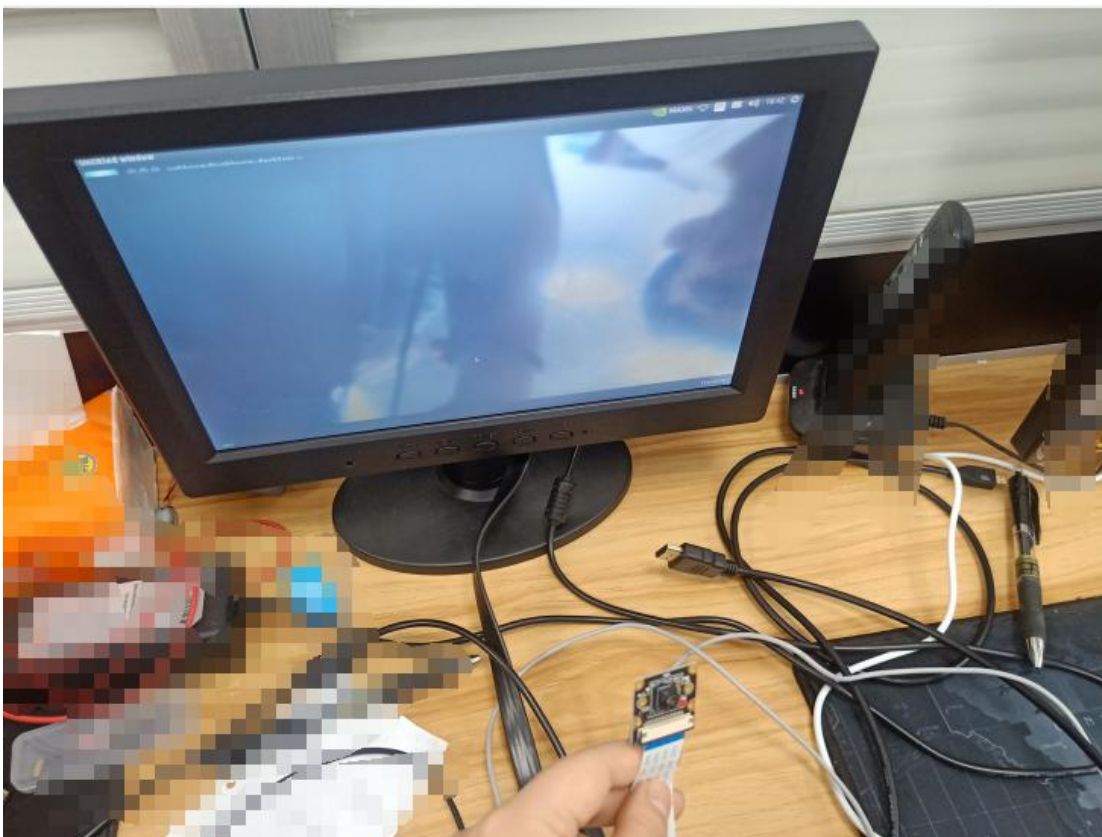
This command is be used to custom preview resolution, width and height, only support CSI camera

e.g: `nvgstcapture-1.0 --cus-prev-res=1920x1080`

As shown below:



```
yahboom@yahboom-desktop:~  
GST_ARGUS: Starting repeat capture requests.  
CONSUMER: Producer has connected; continuing.  
^C** Message: 18:42:40.038: <_intr_handler:4197> User Interrupted..  
  
Terminating the camera pipeline ...  
GST_ARGUS: Cleaning up  
CONSUMER: Done Success  
GST_ARGUS: Done Success  
** Message: 18:42:40.421: <main:4609> Capture completed  
** Message: 18:42:40.421: <main:4658> Camera application will now exit  
GST_ARGUS:  
PowerServiceHwVlc::cleanupResources  
yahboom@yahboom-desktop:~$ nvgstcapture-1.0 --cus-prev-res=1920x1080  
Encoder null, cannot set bitrate!  
Encoder Profile = High  
Supported resolutions in case of ARGUS Camera  
(2) : 640x480  
(3) : 1280x720  
(4) : 1920x1080  
(5) : 2104x1560  
(6) : 2592x1944  
(7) : 2616x1472  
(8) : 3840x2160  
(9) : 3896x2192  
(10): 4208x3120  
(11): 5632x3168  
(12): 5632x4224  
  
Runtime ARGUS Camera Commands:
```



If multiple commands are used at the same time, we need to use **!** separated.  
If you want to turn off the camera, we need to input **"q"** directly in the terminal and press **"Enter"**.  
If you want to capture the picture, we need to input **"j"** in the terminal and press **"Enter"**. The picture will be saved in the current directory.

3. If the camera shooting effect is reddish, you can follow the steps below.

3.1 Download the camera-override.isp file, extract it to a specific folder.

```
wget http://www.waveshare.net/w/upload/e/eb/Camera_overrides.tar.gz  
tar zxvf Camera_overrides.tar.gz  
sudo cp camera_overrides.isp /var/nvidia/nvcam/settings/
```

3.2 installation file

```
sudo chmod 664 /var/nvidia/nvcam/settings/camera_overrides.isp  
sudo chown root:root /var/nvidia/nvcam/settings/camera_overrides.isp
```

#### **【NOTE】**

Jetson nano, Jetson Xavier NX, and Jetson TX2 NX SUB three board test images are output to the HDMI screen, so when testing, you must first connect the screen to Jetson, and the device cannot test the camera screen remotely or through a DP screen .

Jetson ORIN XN needs to be connected to DP screen when testing.